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Microplana mahnerti n. sp., a new Terrestrial Planarian from Jura Mts. (Turbellaria Tricladida Rhynchodemidae)

by

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With 2 figures

Abstract

The Author describes *Microplana mahnerti* n. sp., from Jura Mts., closely related to *M. styriaca* Freisling from Austria, from which it differs by possessing a vesicula seminalis and larger eyes. An estimate of the chromosome number is $2n = 10$.

Microplana sp. from Malta is also recorded.

During 1974 and 1975 Dr. V. Mahnert (Muséum d'Histoire Naturelle, Genève) collected several specimens of terrestrial planarians he sent to me for identification.

A first specimen was collected on the Island of Malta, near Hagar Qim, under a stone near a tree of *Ceratonia siliqua*. This finding is of geographical and ecological interest, because of the very few findings we know of terrestrial planarians in the Mediterranean area, i.e.:

Microplana terrestris (O. F. Müll.): Minorca, Greece, Crete (Gislén 1943, sub *Rhynchodemus terrestris*).

Microplana richardi (Bendl): Monaco (Bendl 1908, sub *Rhynchodemus richardi*: loc. typ.).

Microplana monacensis (Heinzel): Monaco (Heinzel 1929, sub *Rhynchodemus monacensis:* loc. typ.).

Microplana hovassei (de Beauchamp): Turkey (de Beauchamp 1934, sub *Rhynchodemus hovassei;* Battalgazi 1945, sub *Rh. decennii:* loc. typ.; see also de Beauchamp 1958).

Geobenazzia tyrrhenica Minelli: I. Elba (Minelli 1974: loc. typ.).

Unfortunately, the specimen from Malta is a very young one without a differentiated copulatory apparatus: therefore it is not possible to identify it at specific level: I refer to it as to *Microplana* sp.

On the contrary, two fully developed specimens have been collected by Dr. Mahnert in the Jura Mountains, together with 3 younger specimens. They represent an unpublished species, which I describe here as new.

Microplana mahnerti n. sp.

France: Dept. Jura, La Cure, under stones in a mixed woodland with *Carpinus betulus* and *Picea alba*, 10.V.1975, V. et A. Mahnert leg., 2 specimens (paratypes); ibid., 20.IX.1975, V. Mahnert leg., 3 specimens (holotype and 2 paratypes).

Description.—Fixed fully grown specimens about 13 mm long. Body almost cylindrical, ⌀ max. 2 mm; colour grey in the living (Mahnert *i.l.*) as well as in preserved state. The attenuated anterior end bears two eyes, with a pigmented cup of 50-60 μm: the interspace between them is of 250 μm.

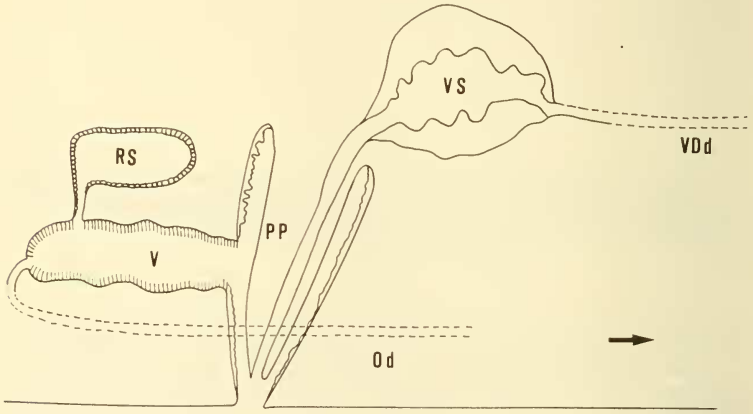

Fig. 1.

Schematic drawing of the copulatory apparatus of *Microplana mahnerti* n. sp. The arrow points to the anterior end. Right oviduct and right vas deferens are seen as projected against the sagittal plane of the animal.

Od, right oviduct; *PP*, papilla penis; *RS*, receptaculum seminis, *V*, vagina; *VDd*, right vas deferens; *VS*, vesicula seminalis.

The mouth opens midventrally at the seventh millimeter of length; the mouth channel is 300 μm long; the pharynx is 1200 μm long and about 600 μm thick. About 50-60 lateral outgrowths on each side of the digestive tract.

The ovaries are placed near the anterior end, about 1 mm from the anterior end of the body.

The oviducts run lateroventrally, get over the genital atrium and enter the vagina from behind. The vagina opens in front of the genital atrium and communicates via a short channel with a dorsally placed receptaculum seminis.

The testes are placed before the pharynx, in number of about 20 each side; they are almost pear-shaped, with the long axis vertical and the thinner end bent towards the ventral surface.

At the level of the pharynx there are two well differentiated vasa deferentia which run hindwards and reach a vesicula seminalis: that vesicle opens in turn in the ejaculatory duct of the penis.

The genital atrium opens 1,6 mm behind the mouth.

The well developed papilla penis is shorter and stronger than in *M. terrestris.*

The holotype (a September specimen) shows ripe testes and very numerous sperm cells along the genital tract.

Two meiotic nuclei in a testis show 5 bivalents each. The diploid chromosome number of *M. mahnerti* is also perhaps $2n = 10$; a little incertitude about this figure is due to the fixing technique employed, not well suited for caryological studies. This is the first chromosome number ever counted in a terrestrial planarian (cfr. Benazzi & Benazzi Lentati 1976).

Fig. 2.

A drawing of the bivalents in a meiotic nucleus of *Microplana mahnerti.*

Derivatio nominis.—The species is named in honour of Dr. V. Mahnert, who collected this interesting form.

Deposit of types.—Holotype and 3 paratypes in the collections of the Muséum d'Histoire Naturelle, Genève; a paratype in the author's collection.

Discussion.—By possessing a receptaculum seminis this new *Microplana* shows greatest resemblance to *M. styriaca* (Freisling) which was described on a single specimen from Austria (Steiermark: Koralpe): the specimen was preserved in the collections of the Zoologisches Institut der Universität, Graz, where it was destroyed during the Second World War (Reisinger *i.l.*). However, the specimens from Jura Mts. don't agree fully with Freisling's description (1935). Differentiating characters are the presence in *M. mahnerti* of a vesicula seminalis (*M. styriaca* lacks this structure) and the dimensions of the eyes (50-60 μm in *M. mahnerti*, 22×10 μm in *M. styriaca*).

In the external habitus the new species agrees with other terrestrial planarians of Europe, including the common *Microplana terrestris* (O. F. Müll.): only after reconstruction of the genital tract and of the copulatory structures it is possible to identify them.

Therefore, many quotations of *M. terrestris* from some European countries must be regarded as doubtful, insofar as they rest upon an "identification" after the external habitus.

Of course, biogeography and phylogenetics of the European terrestrial planarians are hardly possible unless the group undergoes a closer taxonomic study.

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Résumé

L'auteur décrit *Microplana mahnerti* n. sp. du Jura, étroitement proche de *M. styriaca* Freisling de l'Autriche, dont elle diffère en possédant une vésicule séminale et des yeux plus grands. Une estimation du nombre des chromosomes est $2n = 10$.

Microplana sp. est réporté de Malte.

Zusammenfassung

Der Verfasser beschreibt *Microplana mahnerti* n. sp. aus dem Jura. Die neue Art ist mit *M. styriaca* Freisling nah verwandt, ist aber von dieser Art durch den Besitz einer Vesicula seminalis und grösserer Augen zu unterscheiden. Die diploide Chromosomenzahl wird auf 10 geschätzt.

Microplana sp. wird aus Malta gemeldet.

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